STRESS AS A PRECIPITATOR IN ADDICTION, RELAPSE, AND DOMESTIC VIOLENCE

Brian K. Hontz
MA, LPC, NCC, CAC, ICADC

Fleet and Family Support Center
NAS JRB Willow Grove, PA

INTRODUCTION

- Stress, Drugs and Alcohol, and Domestic Violence often studied independently, rarely in conjunction
- Ripple Effect
  - Smallest ripples at point of entry
  - Largest ripples beyond view
- Purpose is to show the connection between them with an emphasis on STRESS as a precipitator in each

SUBSTANCE ABUSE AND DOMESTIC VIOLENCE

- 92% of domestic abuse assailants reported use of alcohol or other drugs on the day of the assault
- Potter-Efron state that alcohol is the primary substance of abuse in domestic assaults
- Not a cause of abuse, but a precipitating factor in many cases
- Early research in the D/A field found the stress connection to numerous other areas
- Continued research found many of these additional areas to be inter-connected

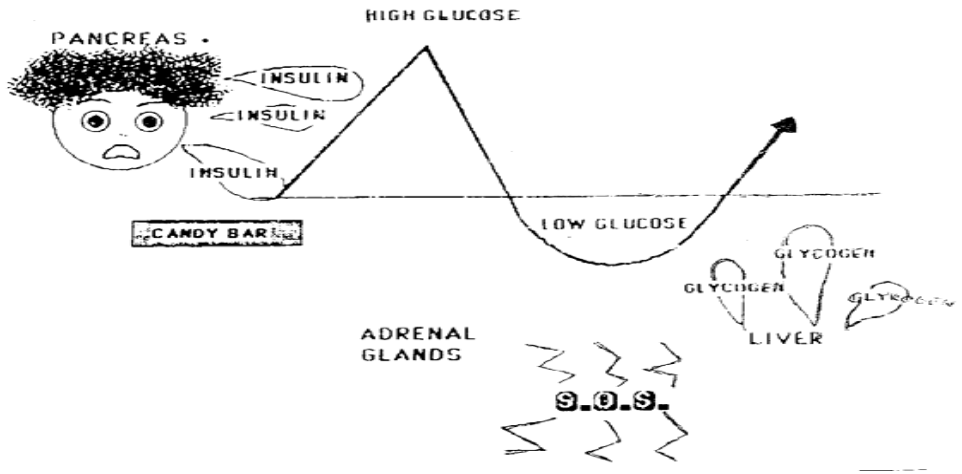
THE WIDE RANGING EFFECTS OF STRESS

- The 1980s sparked the fitness craze largely due to elevated cholesterol rates
- Excessive levels of Cortisol found in those with elevated cholesterol rates was discovered to be directly linked to elevated stress levels
- Stress was linked to increasing numbers of sugar diabetes in younger populations due to the pancreas continually working to adjust blood sugar levels
- When blood sugar levels drop due to an excess of insulin after the stressor has passed, cravings for foods high in sugar often result
- Low blood sugar also affects mood. Possible link to the increase numbers of mood disorders and drug/alcohol abuse/addition seen in the 80s (i.e. substitution effect)

HYPOGLYCEMIA

A Response To Imbalance

A View of Increasing Dependence



- When too much sugar goes into the system, the pancreas panics. Then blood sugar falls.
- The adrenals then panic, sending an S.O.S. to the liver to get glycogen converted to glucose and up to the brain.
- Cigarettes, caffeine, and other drugs prod the liver to work faster, thus more quickly sending up the blood sugar.
- Soon we need an increasing number of drugs to manage our glucose levels - - alcohol, morning coffee, cigarettes, and then . . .

STRESS AS A PRECIPITATOR IN ALCOHOL ADDICTION

- Casual drinkers often use alcohol as a stress reliever
- Research in the 1970s found high levels of tetrahydroisoquinoline (TIQs - heroin like substances) in the brains of dead addicts
- Dr. Ken Blum discovered that injecting TIQs into the brains of rats could instantly make them prefer alcohol

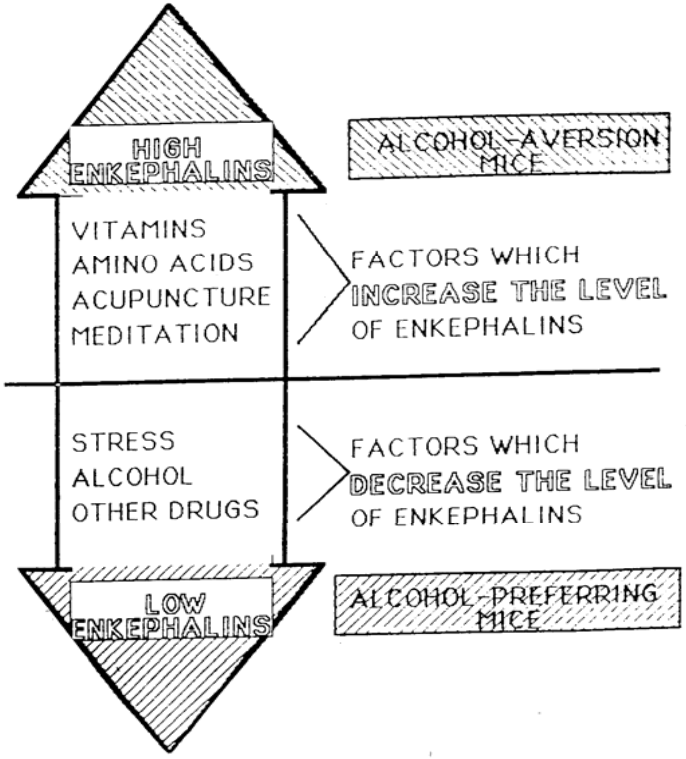
- TIQ is formulated in the brain by the combination of Acetaldehyde (metabolized alcohol) and Dopamine which then fits into Dopamine Receptor sites

- Dopamine is also a neurotransmitter activated during “fight or flight” when under stress

- TIQs begin to take the place of Dopamine resulting in Dopamine site depravation. This is directly related to craving.

- Stress lowers Enkephaline levels as well. Rats with lowered Enkephalin levels preferred alcohol over water almost 100% of the time.

RELATIONSHIP BETWEEN NATURAL OPIATE-LIKE CHEMICALS IN THE BRAIN AND ALCOHOL USE



Note: Laboratory studies with mice indicate that, those with low enkephalin levels (opiate – like chemicals) prefer alcohol to water; while those with high levels, have an aversion to alcohol. Stress and the use of alcohol and drugs lower enkephalin levels. Vitamins, amino acids, meditation, and acupuncture raise enkephalin levels.

STRESS AS A PRECIPITATOR IN DOMESITC VIOLENCE

- When Enkephalin levels are down, mood is down and depression is up
- Endorphins are also decreased by stress
- When Endorphin levels are low, one is more susceptible to pain and less tolerant of discomfort
- When this occurs, an individual can become more controlling and lose impulse control

EXPLANATION OF CRAVING BEHAVIOR

✓ = ALCOHOL X = COCAINE

NEUROTRANSMITTERS INTERNAL DRUGS	STRESS REDUCES LEVELS OF	ACUTE DOSE INCREASES LEVELS	CHRONIC USE REDUCES LEVELS	ALCOHOL-PREFERRING MICE HAVE LOW LEVELS	INCREASE IN REDUCES VOLUN. CONSUMPTION AND CRAVING
ENKEPHALINS Craving ↓ Depression ↓ Mood ↑	✓	✓	✓	✓	
ENDORPHINS Pain ↓ Tolerance for discomfort ↑ Mood ↑	✓		✓		
DOPAMINE Pleasure ↑ Depression ↓ Mood ↑ Aggression ↑ Sexual Behav. ↑		✓ X	✓ X	✓	✓ X (Also human studies)
NOREPINEPHRINE Energy ↑ Mood ↑ Fight or flight ↑		X	✓ X	✓ (Also human studies)	
SEROTONIN General sense of well-being ↑ Depression ↓ Insomnia ↓ Mood ↑ Aggression ↑			✓ X	✓	✓
GABA Ability to cope with stress ↑ Anxiety ↓		✓		✓ A "behind the brain" system	✓

Alcohol Craving Behavior results from the conditions below

1. Inherited deficiency of neurotransmitters + Environment
2. Normal neurotransmitters + stress – induced deficiency of neurotransmitters
3. Normal neurotransmitters + alcohol – induced deficiency of neurotransmitters
4. Normal neurotransmitters + diet – induced deficiency of neurotransmitters

PUTTING IT ALL TOGETHER

- Each piece often interconnects and affects the others
- Military population has two kinds of stress
  - Normal stressors
  - Those unique to military lifestyle
- Other risk factors such as family history of addition and/or abuse, personality disorders, and prior marital discord multiply the problem and risk

TREATMENT

- First and foremost, need to be **Proactive** instead of **Reactive**
- Proactive therapeutic education that breaks the “stereotypes” is critical
- Emphasize the stress connection

- Take an eclectic, broad based approach to treatment
- Reality and directive orientations work well
- “Mind, Body, and Spirit” approach, don’t overlook diet
- Work with offender and victim individually before using group modalities
- Take care of yourself: good supervision, peer review, and outer agency peer/mentor

DIETARY FACTORS IN PREVENTING & TREATING ADDICTIONS

1. Studies have suggested that perhaps 50% of those with alcohol problems inherit a greater need for the B-vitamins than those without alcohol problems. A vicious cycle can also develop. Alcohol use brings about nutritional deficiencies. Nutritional deficiencies increase craving for alcohol, etc. An especially good diet can help with recovery – especially to reduce the craving for alcohol. Foods rich in B-vitamins are: yogurt, grains, and nutritional yeast. Grains include brown rice, barley, oats, rye, whole wheat, etc.

2. Studies have also suggested that the craving for alcohol may be related to the level of enkephalins in the brain (one of the neurotransmitters that gives us a feeling of well being). Enkephalins are made from amino acids. Amino acids come from good quality meat and from vegetables and grains in the right combinations. Without a sufficient intake of these amino acids, we may not produce the neurotransmitters needed to have a sense of well-being. Another vicious cycle: drug use and stress reduce enkephalines: thus an increase in craving for alcohol and other drugs. Vitamins, amino acids, meditation, acupuncture have been shown to increase the levels of enkephalins.

CONCLUSION

- Stress and stressors will only increase with time and progress
- Equip clients with the tools to deal with stress and its precipitators

Additional Information and Research

al'Absi, Mustafa, ed. (2007). "Stress and Addiction". http://www.elsevier.com

Blum, Ken and James Payne. (1991). "Alcohol and the Addictive Brain".

Interdisciplinary Research Consortium on Stress, Self-Control and Addiction (IRCSSA), Yale Stress Center, Yale School of Medicine, http://stress.yale.edu

Papme, Jilje. (Nov 6, 2007). "Stress Increases Cocaine Addiction". Leiden University, Science Daily. www.sciencedaily.com

Potter-Efron, Ronald. "Shame, Guilt, and Alcoholism: Treatment Issues in Clinical Practice"

PTSD and Addiction – NIAAA Bibliography of 03-02-02, 100 different studies on PTSD and Addiction, www.tgorski.com/Terrorism.htm

Smoak, B.L., J.P. Norton, E.W. Ferguson, P.A. Deuster. "Changes in Lipoprotein Profiles during Intense Military Training". Dept of Military Medicine, Uniformed Services University of the Health Sciences, Bethesda, MD, Journal of the American College of Nutrition. www.jacn.org/cgi/content/abstract/9/6/567

Steptoe, A. *Health Psychology*, November 2005; vol 24: pp 601-607. News release, American Psychological Association. WebMD Medical Reference in collaboration with The Cleveland Clinic: "Managing Stress."

Stocker, Steven. (April 1999). "Studies Link Stress and Drug Addiction". NIDA Notes, Volume 14, Number 1. www.nida.nih.gov

Preparing Marines and their families to focus on the mission!

You **DO** make a difference!

THANK YOU!